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Arrowhead Pharmaceuticals, Inc. (ARWR-NASDAQ)

ARWR: Summer Webinar Series to Highlight Development Pipeline…

Based on our probability adjusted DCF model that takes into account potential future revenues from the company's development products, ARWR is valued at $74/share. This model is highly dependent upon the continued clinical success of those programs and will be adjusted accordingly based upon future clinical outcomes.

Current Price (05/16/24)	$25.04
Valuation	**$74.00**

OUTLOOK

On May 9, 2024, Arrowhead Pharmaceuticals, Inc. (ARWR) announced financial results for the second quarter of fiscal year 2024 that ended March 31, 2024. The company currently has 14 clinical stage programs, with 10 of them being wholly owned. We expect a total of 18 clinical programs by the year end. For the next few months, Arrowhead will be hosting monthly webinars to focus on different disease areas and the company's candidates in those areas. In the near term, we anticipate results from the Phase 3 PALISADE trial to be presented at the June 25 cardiometabolic webinar with an NDA to be submitted by the end of 2024 and a potential commercial launch in 2025. Following the $450 million financing in January 2024, the company received a $50 million milestone payment from Royalty Pharma following completion of the Phase 3 OCEAN(a) trial of olpasiran, which is being conducted by Amgen.

SUMMARY DATA

52-Week High	**$40.49**
52-Week Low	**$21.20**
One-Year Return (%)	**-38.23**
Beta	**0.78**
Average Daily Volume (sh)	**890,567**
Shares Outstanding (mil)	**124**
Market Capitalization ($mil)	**$3,097**
Short Interest Ratio (days)	**N/A**
Institutional Ownership (%)	**63**
Insider Ownership (%)	**5**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**21.1**
Earnings Per Share (%)	**N/A**
Dividend (%)	**N/A**
P/E using TTM EPS	**N/A**
P/E using 2024 Estimate	**-8.2**
P/E using 2025 Estimate	**-9.4**

Risk Level	**Above Avg.**
Type of Stock	**Mid-Growth**
Industry	**Med-Drugs**

ZACKS ESTIMATES

Revenue
(in millions of $)

	Q1 (Dec)	Q2 (Mar)	Q3 (Jun)	Q4 (Sep)	Year (Sep)
2023	62.6 A	146.3 A	15.8 A	16.1 A	240.7 A
2024	3.6 A	0.0 A	50.0 E	50.0 E	103.6 E
2025					250.0 E
2026					300.0 E

Earnings per Share

	Q1 (Dec)	Q2 (Mar)	Q3 (Jun)	Q4 (Sep)	Year (Sep)
2023	-$0.39 A	$0.46 A	-$0.96 A	-$1.04 A	-$1.92 A
2024	-$1.24 A	-$1.02 A	-$0.48 E	-$0.48 E	-$3.14 E
2025					-$1.76 E
2026					-$1.42 E

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WHAT'S NEW

Business Update

Summer Webinar Series to Highlight Development Candidates

Arrowhead Pharmaceuticals, Inc. (ARWR) will be hosting a series of summer webinars to discuss disease areas, treatment landscapes, the company's candidates, preclinical data supporting each target, and the company's clinical development strategy. The schedule is as follows:

May 23 - Muscle Day focused on ARO-DM1 and ARO-DUX4
ARO-DM1 is being developed as a treatment for type 1 myotonic dystrophy (DM1) through targeting the DM1 protein kinase (*DMPK*) gene. DM1 is caused by expansion of a CTG trinucleotide repeat in the 3' noncoding region of *DMPK* that results in mutant RNA that disrupts the splicing of CUG binding protein (CUG-BP) and Musclebind-like protein (MBNL). This causes the sequestration of splicing factors that ultimately disturbs cellular signaling and results in harmful effects on muscle metabolism and RNA processing, which is known as spliceopathy (Jain *et al*., 2023). MBNL-1 is abundant in skeletal muscle and MBNL-2 is abundant in brain tissue. CUG-BP binds to cardiac troponin, with elevated levels resulting in cardiac abnormalities and abnormal insulin receptor function. Disruption of splicing also leads to loss of CIC-1 chloride channels, which causes sustained muscle contraction without the ability to relax (myotonia). A Phase 1/2a double blind, placebo controlled dose escalating study of ARO-DM1 was initiated in March 2024 and will enroll up to 48 subjects with DM1.

ARO-DUX4 is being developed for the treatment of facioscapulohumeral muscular dystrophy (FSHD). FSHD is a rare genetic disorder characterized by progressive muscle weakness and degeneration most notably in the face, shoulders, and upper arms, however it usually causes weakness in multiple muscle groups all over the body. The disease is caused by the inappropriate expression of the transcription factor double homeobox protein 4 gene (*DUX4*) (Gabriëls *et al*., 1999). Arrowhead previously presented preclinical data on the ability of the TRiM platform to be used in muscle and in a mouse model of FSHD with a tamoxifen-inducible human DUX4 gene, ARO-DUX4 prevented the tamoxifen-induced increase in DUX4, prevented DUX-4 induced body weight loss, prevented and reversed muscle fibrosis, and prevented rotarod performance loss.

June 25 – Cardiometabolic Day focused on plozasiran and zodasiran
The last study visit for the last patient enrolled in the Phase 3 PALISADE study of plozasiran in patients with familial chylomicronemia syndrome (FCS) recently occurred and we anticipate initial topline data from that study during the webinar, with a fuller data set being presented at an appropriate medical meeting. Plozasiran is also being evaluated in the SHASTA-3, SHASTA-4, and SHASTA-5 trials. SHASTA-3 and 4 are global, randomized, double blind, placebo controlled Phase 3 studies to evaluate the safety and efficacy of plozasiran in adult subjects with severe hypertriglyceridemia (SHTG) and prior documented evidence of fasting triglyceride (TG) levels > 500 mg/dL. The double blind treatment period will be for one year, with subjects receiving a total of four quarterly doses. The primary endpoint for those studies is the placebo-adjusted change in fasting serum TG levels at Month 12. SHASTA-3 is expected to enroll approximately 405 subjects while SHASTA-4 is expected to enroll approximately 300 subjects. These studies should begin enrolling soon. SHASTA-5 is currently planned as a Phase 3 multi-center, randomized, double blind, placebo controlled study to evaluate plozasiran vs. placebo in approximately 140 subjects with SHTG at high risk of acute pancreatitis. Subjects must have TG levels > 880 mg/dL and a history of acute pancreatitis events. The primary endpoint will be the incidence of adjudicated acute pancreatitis events compared to placebo.

For zodasiran, the company has submitted Phase 3 study designs for patients with homozygous familial hypercholesterolemia (HoFH) to the FDA and expects to have an 'End of Phase 2' meeting this month. The Phase 3 study is expected to initiate soon after receiving regulatory feedback. In addition, the company has submitted the proposal to the FDA for a study in a large mixed dyslipidemia population for a cardiovascular outcomes trial (CVOT). Feedback from the FDA is expected next month after which the company will seek

input from the European Medicines Agency (EMA). Details regarding the timing and costs of that study are expected once the company has reached alignment with regulatory authorities.

July 16 – Pulmonary Day focused on ARO-RAGE, ARO-MUC5AC, and ARO-MMP7
Patient enrollment continues across all three programs and we anticipate multiple clinical readouts this year. For ARO-RAGE, the Phase 1 trial is enrolling high FeNO patients with moderate to severe asthma and while enrollment has been slow due to the high baseline FeNO required to enter the trial, the company is pleased with the target engagement data thus far and will be proceeding to a Phase 2 study to initiate in 4Q24, which is before the expected data readout from the Phase 1 trial.
For both ARO-MUC5AC and ARO-MMP7, enrollment and dosing of healthy volunteers has already occurred and the patient cohorts are likely to be enrolled and dosed in order to have clinical readouts in the second half of 2024.

August 15 – Obesity and Metabolic Disease Day focused on ARO-INHBE and an undisclosed target
ARO-INHBE targets the *INHBE* gene that encodes inhibin subunit βE. This is an interesting target as two papers came out in 2022 that described loss of function mutations in *INHBE* that were associated with favorable fat distribution. Deaton *et al*. reported a genome-wide association study (GWAS) from 362,679 individuals that showed a predicted loss of function variant in *INHBE* associated with a lower waist-to-hip ratio adjusted for BMI (WHRadjBMI), which they used as a surrogate for abdominal fat that is causally linked to type 2 diabetes and coronary heart disease (Deaton *et al*., 2022). Akbari *et al*. performed a GWAS in 618,375 individuals and identified an association with favorable fat distribution, favorable metabolic profile, and protection from type 2 diabetes for heterozygous protein-truncating mutations in *INHBE* (Akbari *et al*., 2022). Arrowhead has conducted studies of *Inhbe* silencing in mouse obesity models with results showing reduced weight gain compared to controls. Importantly, the difference in weight gain was primarily due to changes in fat mass with no difference in lean mass. The company believes *INHBE* silencing could be a good adjunct to GLP-1 agonists and could include the ability to lower the dose of the GLP-1 agonist and thus reducing lean mass loss, gastrointestinal side effects, and prevention or slowing of weight regain following cessation of GLP-1 agonist therapy.

The company will discuss the undisclosed adipose candidate during the session as well.

September 25 – CNS Day focused on central nervous system candidates and an undisclosed candidate
The company will be providing an update on a specific, currently undisclosed candidate and highlight the progress that is occurring in regards to a subcutaneously administered construct designed to deliver siRNA across the blood brain barrier to the CNS without the need for intrathecal (IT) administration. This is expected to be a much more patient friendly approach and may allow access to tissues deep within the brain that are difficult to reach with IT injections.

Financial Update

On May 9, 2024, Arrowhead announced financial results for the second quarter of fiscal year 2024 that ended March 31, 2024. The company reported no revenue for the second quarter of fiscal year 2024 compared to approximately $146.3 million for the second quarter of fiscal year 2023. The decrease was primarily due to decreased revenue recognition associated with the company's license and collaboration agreements during the current quarter. R&D expenses for the quarter ending March 31, 2024 were approximately $101.1 million compared to $74.9 million for the quarter ending March 31, 2023. The increase was primarily due to increased candidate costs, R&D discovery costs, salaries, and facilities expenses. G&A expenses for the second quarter of fiscal year 2024 were $25.1 million compared to $23.2 million for the second quarter of fiscal year 2023. The increase was primarily due to higher salaries and professional fees.

Arrowhead exited the second quarter of fiscal year 2024 with approximately $523.1 million in cash, cash equivalents, and investments. Subsequent to the end of the quarter, Arrowhead reported it received a $50 million milestone payment from Royalty Pharma, which was paid during the third fiscal quarter of 2024, following the completion of enrollment of the Phase 3 OCEAN(a) trial of olpasiran being conducted by Amgen. As of May 1, 2024, Arrowhead had approximately 124.2 million shares outstanding and, when factoring in stock options and restricted stock units, a fully diluted share count of approximately 131.4 million.

Conclusion

We look forward to the summer webinar series that the company will be hosting over the next few months as those events will provide a comprehensive overview of the company's pipeline. This will include initial topline data from the Phase 3 PALISADE study of plozasiran in patients with FCS on June 25, 2024. Positive results from that study will allow for an NDA filing before the end of 2024 and a potential approval in 2025. With no changes to our model our valuation remains at $74 per share.

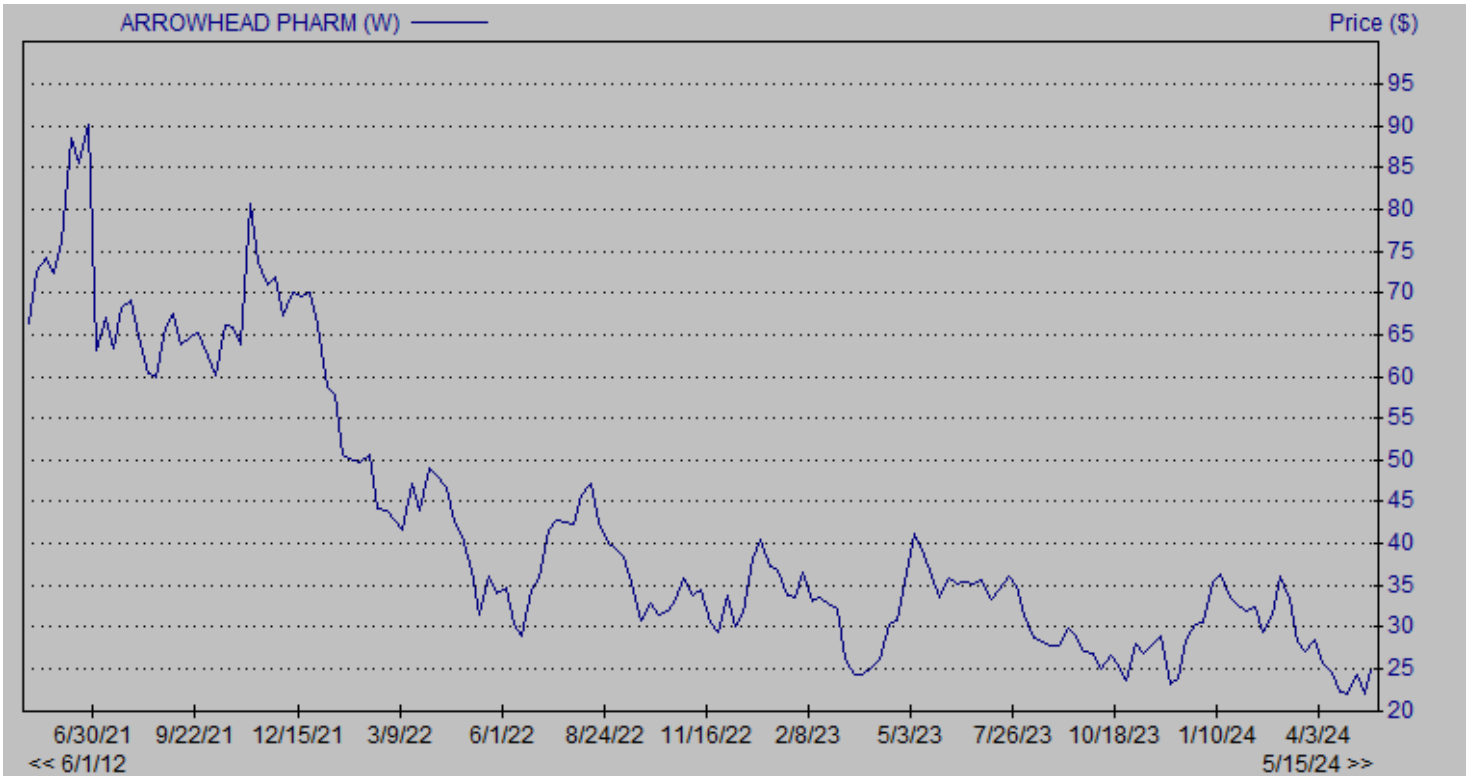
PROJECTED FINANCIALS

Arrowhead Pharmaceuticals, Inc.	FY2023 A	Q1FY24 A	Q2FY24 A	Q3FY24 E	Q4FY24 E	FY2024 E	FY2025 E	FY2026 E
Revenue	$240.74	$3.55	$0.00	$50.00	$50.00	$103.55	$250.00	$300.00
YOY Growth	*456.1%*	*-97.6%*	*-100.0%*	*210.6%*	*-79.2%*	*1256.6%*	*48.1%*	*918.5%*
Total Revenues	**$240.7**	**$3.6**	**$0.0**	**$50.0**	**$50.0**	**$103.6**	**$250.0**	**$300.0**
YOY Growth	*456.1%*	*-97.6%*	*-100.0%*	*210.6%*	*-79.2%*	*1256.6%*	*48.1%*	*918.5%*
Cost of Revenue	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Gross Income	**$240.7**	**$3.6**	**$0.0**	**$50.0**	**$50.0**	**$103.6**	**$250.0**	**$300.0**
Gross Margin	*100.0%*	*100.0%*	*#DIV/0!*	*100.0%*	*100.0%*	*100.0%*	*100.0%*	*100.0%*
R&D	$353.2	$116.5	$101.1	$85.0	$85.0	$387.6	$375.0	$380.0
% R&D	*146.7%*	*3280.5%*	*#DIV/0!*	*170.0%*	*170.0%*	*374.3%*	*150.0%*	*126.7%*
Salary and G&A	$92.5	$23.6	$25.1	$24.0	$24.0	$96.7	$95.0	$100.0
% SG&A	*38.4%*	*664.7%*	*#DIV/0!*	*48.0%*	*48.0%*	*93.4%*	*38.0%*	*33.3%*
Other expenses	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
% Other	*0.0%*	*0.0%*	*#DIV/0!*	*0.0%*	*0.0%*	*0.0%*	*0.0%*	*0.0%*
Operating Income	**($205.0)**	**($136.5)**	**($126.2)**	**($59.0)**	**($59.0)**	**($380.7)**	**($220.0)**	**($180.0)**
Operating Margin	*-85.2%*	-	-	-	-	*-367.7%*	*-88.0%*	*-60.0%*
Other Income (Net)	($1.5)	($2.1)	($0.8)	$0.0	$0.0	($2.9)	$0.0	$0.0
Pre-Tax Income	**($206.5)**	**($138.7)**	**($127.0)**	**($59.0)**	**($59.0)**	**($383.7)**	**($220.0)**	**($180.0)**
Net Taxes (benefit)	$2.8	$3.3	$0.0	$0.0	$0.0	$3.3	$0.0	$0.0
Net Loss Attributable to Noncontrolling Interest	$4.0	$2.5	$1.7	$0.0	$0.0	$4.2	$0.0	$0.0
Reported Net Income	**($205.3)**	**($132.9)**	**($125.3)**	**($59.0)**	**($59.0)**	**($376.2)**	**($220.0)**	**($180.0)**
Net Margin	*-85.3%*	-	-	-	-	*-363.3%*	*-88.0%*	*-60.0%*
Reported EPS	**($1.92)**	**($1.24)**	**($1.02)**	**($0.48)**	**($0.48)**	**($3.14)**	**($1.76)**	**($1.42)**
YOY Growth	-	-	-	-	-	-	-	-
Basic Shares Outstanding	106.8	107.4	123.3	124.0	124.0	119.7	125.0	127.0

Source: Zacks Investment Research, Inc. *David Bautz, PhD*

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